Amendments to the Claims:

1. (Original) A method of operating a wireless communications unit to request a connection with a base station, comprising the steps of:

receiving, from the base station, a signal indicating at least one time slot within which a preamble may be transmitted by the wireless communications unit;

selecting one of a plurality of orthogonal codes for the preamble;

generating a spread code using the selected orthogonal code, the spread code arranged as a symbol of the selected code, repeated a selected number of repetitions; and

transmitting, to the base station, a preamble signal corresponding to the spread code.

2. (Original) The method of claim 1, further comprising:

after the step of generating a spread code, multiplying the spread code by a scrambling code associated with the base station.

3. (Original) The method of claim 2, wherein the spread code has a length corresponding to a length of the scrambling code.

4. (Original) The method of claim 3, wherein the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes.

5. (Original) The method of claim 4, wherein the set of Walsh Hadamard codes consists of the set of Walsh Hadamard codes having a length of sixteen;

wherein the generating step repeats a symbol of the Walsh Hadamard code 256 times; and wherein the length of the scrambling code is 4096 chips.

6. (Original) The method of claim 4, wherein the set of Walsh Hadamard codes consists of the set of Walsh Hadamard codes having a length of sixteen;

wherein the generating step repeats a symbol of the Walsh Hadamard code 240 times; and wherein the length of the scrambling code is 3840 chips.

7. (Original) The method of claim 1, wherein the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes.

8. (Original) The method of claim 1, wherein the selecting step comprises executing a pseudo-random selection algorithm.

9. (Original) The method of claim 1, wherein the receiving step receives a signal indicating a plurality of time slots within which the preamble may be transmitted by the wireless communications unit;

and further comprising:

selecting one of the plurality of time slots for transmission of the preamble.

10. (Original) The method of claim 1, further comprising:

operating a base station to process the transmitted preamble, comprising the steps of:

receiving the transmitted preamble;

de-interleaving bits from the spread code, to group corresponding bits from each of the repetitions of the symbol;

despreading the grouped bits to recover a symbol;

correlating the recovered symbol to identify the selected orthogonal code.

11. (Original) A method of operating a base station to recover a preamble code transmitted by a wireless unit, comprising the steps of:

receiving a signal corresponding to a preamble;

arranging the signal into a bitstream;

de-interleaving bits from the bitstream, to group corresponding bits from each of a plurality of repetitions of a symbol length, into a plurality of groups;

despreading the bits of each of the plurality of groups to recover a plurality of symbol bits in a sequence, the sequence having a length corresponding to a length of the preamble code; and

correlating the sequence to identify a code, the code corresponding to one of a set of orthogonal codes.

12. (Original) The method of claim 11, wherein the de-interleaving step comprises:

applying the bitstream into a sequence of tapped delay lines; and

grouping corresponding taps from each of the tapped delay lines.

13. (Original) The method of claim 11, further comprising:

responsive to the correlating step identifying a code, initiating a connection with a wireless unit that transmitted the preamble.

14. (Original) The method of claim 11, wherein the number of groups generated by the de-interleaving step corresponds to the length of the preamble code times a number of segments in the bitstream;

wherein the despreading step recovers the plurality of symbol bits into a sequence having a length corresponding to the length of the preamble code times the number of segments;

and wherein the correlating step comprises:

correlating each of the corresponding symbol bits from each of the plurality of segments to identify the code.

15. (Original) The method of claim 14, wherein the correlating step comprises summing the power of the corresponding symbol bits from each of the plurality of segments.

16. (Original) The method of claim 14, wherein the correlating step comprises deriving a difference value of the corresponding symbol bits from each of the plurality of segments.

17. (Original) The method of claim 14, wherein the number of segments is four, with each segment having sixty-four symbols.

18. (Original) The method of claim 14, wherein the number of segments is eight, with each segment having thirty-two symbols.

19. (Original) The method of claim 14, wherein the number of segments is two, with each segment having one hundred twenty-eight symbols.

20. (Original) A wireless communications unit, comprising:

an antenna for transmitting and receiving signals;

a radio subsystem coupled to the antenna for amplifying and processing of signals transmitted and received at the antenna;

circuitry, coupled to the radio subsystem, for converting received signals into digital form, and for converting digital signals into a form transmittable over the antenna;

a programmable digital circuit, for performing digital operations upon signals to be transmitted and received, the programmable digital circuit programmed to request a connection with a base station by performing operations comprising:

receiving, from the base station, a signal indicating at least one time slot within which a preamble may be transmitted by the wireless communications unit;

selecting one of a plurality of orthogonal codes for the preamble;

generating a spread code using the selected orthogonal code, the spread code arranged as a symbol of the selected code, repeated a selected number of repetitions; and

transmitting, to the base station, a preamble signal corresponding to the spread code.

21. (Original) The unit of claim 20, wherein the operations performed by the programmable digital circuit further comprise:

after generating the spread code, multiplying the spread code with a scrambling code associated with the base station.

22. (Original) The unit of claim 20, wherein the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes.

23. (Original) A base station for a wireless communications network, comprising:

at least one base station antenna, for receiving and transmitting communications signals;

radio frequency interface circuitry, coupled to the antenna, for transmit and receive formatting and filtering signals received from or to be transmitted from the antenna;

baseband circuitry, coupled between the radio frequency interface circuitry and a telephone network, for performing digital operations upon received data and data to be transmitted by the base station, the baseband circuitry comprising:

circuitry for encoding and modulating digital data received from the telephone network and to be transmitted from the base station via the antenna;

demodulating and despreading circuitry, for recovering a preamble code transmitted by a wireless unit, comprising:

a sequence of delay lines for receiving a bitstream corresponding to a received signal including the preamble code;

a plurality of despreader functions, each coupled to a tap position in each of the sequence of delay lines, for receiving corresponding bits from corresponding positions in each of the delay lines, and for generating a bit of a symbol therefrom; and

a code correlation function, for comparing the symbol presented by each of the plurality of despreader functions against a set of orthogonal codes, and for generating a signal indicating the correlation of the presented symbol with each of the orthogonal codes in the set.

24. (Original) The base station of claim 23, wherein the plurality of orthogonal codes corresponds to a set of Walsh Hadamard codes.

25. (New) A method of generating a preamble, comprising the steps of:

selecting a first code from a plurality of orthogonal codes;

repeating the first code a plurality of times to produce a spread code having a predetermined length; and

multiplying the spread code by a second code having the predetermined length.

26. (New) A method as in claim 25, wherein the orthogonal codes are Walsh Hadamard codes corresponding to users in a wireless cell.

27. (New) A method as in claim 26, wherein the second code is a scrambling code corresponding to a wireless cell.

28. (New) A method as in claim 25, wherein a product of the plurality of orthogonal codes and the plurality of times the first code is repeated is equal to the predetermined length.

29. (New) A method as in claim 25, wherein plurality of orthogonal codes is 16, the plurality of times the first code is repeated is 256, and the predetermined length is 4096.

30. (New) A method of decoding a preamble, comprising the steps of:

extracting a first number of groups of signals having a second number of signals in each group from a data stream having a predetermined length;

applying one signal from each group to each respective despreader circuit of a second number of despreader circuits, each despreader circuit producing a respective output signal; and

comparing the second number of output signals to a plurality of codes.

31. (New) A method as in claim 30, wherein a product of the first and second numbers is equal to the predetermined length.

32. (New) A method as in claim 31, wherein the first number is 256, the second number is 16, and the predetermined length is 4096.

33. (New) A method as in claim 30, wherein the plurality of codes are Walsh Hadamard codes.

34. (New) A method as in claim 30, comprising producing a signal corresponding to a match between the second number of output signals and one of the plurality of codes.

35. (New) A method of decoding a preamble, comprising the steps of:

extracting a first number of groups of signals having a second number of signals in each group from a data stream having a predetermined length, wherein each group has a third number of subgroups;

applying one signal from each subgroup to each respective despreader circuit of a third number of despreader circuits, each despreader circuit producing a respective output signal; and

producing a first number of transforms from the output signal from each respective despreader circuit of each subgroup, each transform having the third number of signals.

36. (New) A method as in claim 35, comprising summing a respective signal corresponding to each transform at a third number of sum circuits, thereby producing the third number of sum signals.

37. (New) A method as in claim 36, wherein a product of the first and second numbers is equal to the predetermined length.

38. (New) A method as in claim 37, wherein the first number is 4, the second number is 1024, the third number is 16, and the predetermined length is 4096.

39. (New) A method as in claim 36, wherein the transform is a Walsh Hadamard transform.

40. (New) A method as in claim 36, wherein the respective signal corresponding to each transform is a square of the amplitude of the transform signal.

41. (New) A method as in claim 36, wherein the sum signal corresponds to a match between data stream and one of the plurality of codes.

42. (New) A method as in claim 35, comprising:

producing a plurality of products, each product comprising a respective transform signal and complex conjugates of another respective transform signal; and

summing a plurality of the products at each of a third number of sum circuits, thereby producing the third number of sum signals.

43. (New) A method as in claim 42, wherein a product of the first and second numbers is equal to the predetermined length.

44. (New) A method as in claim 43, wherein the first number is 4, the second number is 1024, the third number is 16, and the predetermined length is 4096.

45. (New) A method as in claim 42, wherein the transform is a Walsh Hadamard transform.

46. (New) A method as in claim 42, wherein the sum signal corresponds to a match between data stream and one of the plurality of codes.

47. (New) A method of decoding a preamble from a remote transmitter, comprising the steps of:

receiving a first number of groups of signals having a second number of signals in each group from a data stream having a predetermined length; and

correlating the first number of groups of signals with a code having the second number of signals repeated the first number of times, the code corresponding to the remote transmitter.

48. (New) A method as in claim 47, wherein a product of the first and second numbers is equal to the predetermined length.

49. (New) A method as in claim 48, wherein the first number is 256, the second number is 16, and the predetermined length is 4096.

50. (New) A method as in claim 47, wherein the code is a Walsh Hadamard code.

51. (New) A method as in claim 47, wherein the data stream comprises a scrambling code, and wherein the method comprises descrambling the data stream.

52. (New) A method as in claim 51, wherein the data stream is a preamble having the predetermined length transmitted from a wireless transmitter to a wireless receiver in a cell, and wherein one of the plurality of codes corresponds to the wireless transmitter, and wherein the scrambling code corresponds to the cell.

53. (New) A method as in claim 52, wherein the code is a Walsh Hadamard code, and wherein the scrambling code is a part of a Gold code.

54. (New) A method as in claim 47, wherein each group of the first number of groups is substantially identical.

55. (New) A method as in claim 47, comprising despreading the first number of groups of signals, thereby producing a plurality of despread signals.

56. (New) A method as in claim 55, comprising correlating the despread signals with the code having the second number of signals repeated the first number of times.